

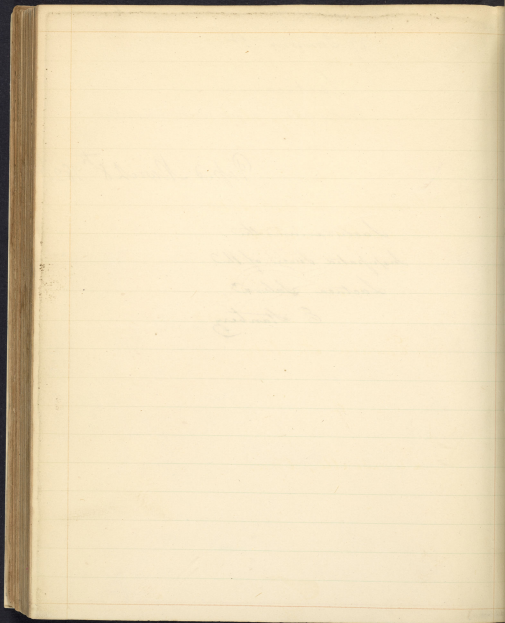
27 Sanson St

*Lactucarium*

pretty good - a few words misspelled.

Papad March 8<sup>th</sup> 1826

*Lactucarium* the  
inspired Juice of the  
*Lactuca Saliva*,  
E. Stanbery



An

Inaugural Dissertation

On

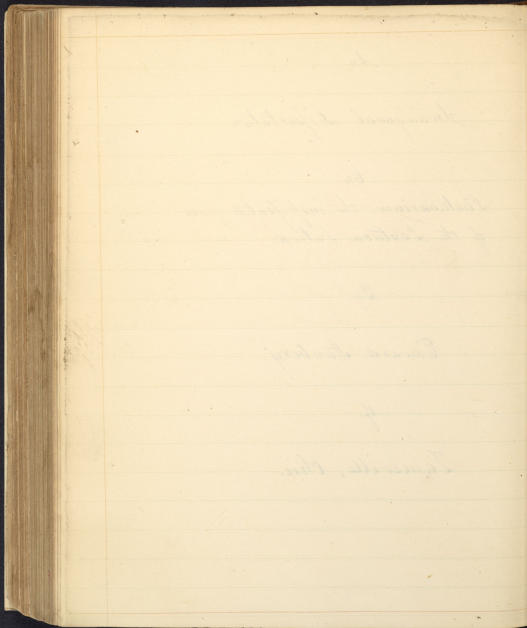
Lactucarium, the inspissated juice  
of the *Lactuca Sativa*.

By

Edward Stanbery

of

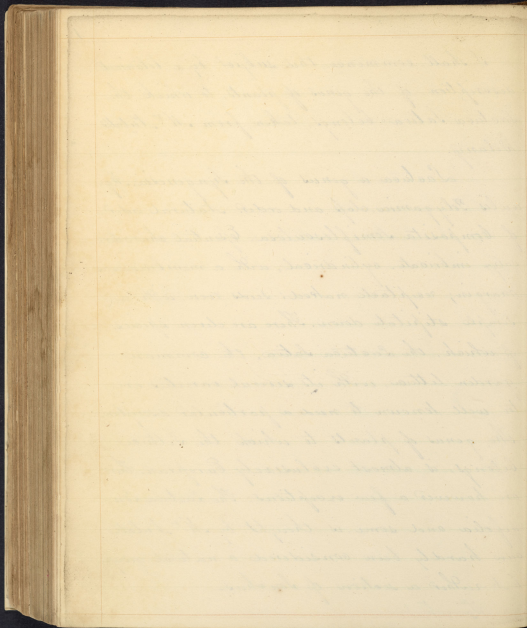
Lanesville, Chic.



I shall commence this subject by a botanical description of the genus of plants, to which the *Lactuca sativa* belongs, taken from M<sup>r</sup>. Salade Bolang.

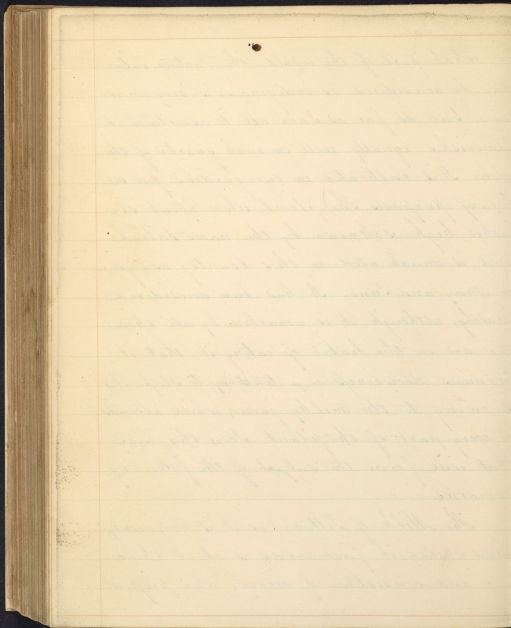
*Lactuca* a genus of the Syngenesia. *Ag-*  
*alis Polygamia*. class and order. Natural order  
of *Composita Lemnifloresculosa*. Essential character:  
calyx imbricate, cylindrical, with a membranaceous  
margin; receptacle naked; seeds even, with a  
simple stipitate down. There are eleven species,  
of which, the *Lactuca sativa*, the common  
garden lettuce, with its several varieties are  
too well known to need a particular description.  
The genus of plants to which the *Lettuce*  
belongs, is almost exclusively European. There  
are however a few exceptions. The *Lactuca Sen-*  
*siolia* and some, is thought by M<sup>r</sup>. Salade  
can hardly be considered a natural group, +  
but rather a section of *Senecus*.

*Senecus*



To what part of the world, the *Lactuca salina* may be considered as indigenous, is very uncertain, but as far as I am able to ascertain, it flourishes equally well in each quarter of the globe. It is cultivated in our gardens, for ordinary purposes. The plant when about six inches high is known by the name *Sallads* and is much used in this country as a green in May and June. It has been considered healthy, although it is remarked by all those who are in the habit of eating it, that it produces drowsiness or a tendency to sleep, this is owing to the milky juice, which abounds in every part of the plant. It is this juice that will form the subject of the following remarks.

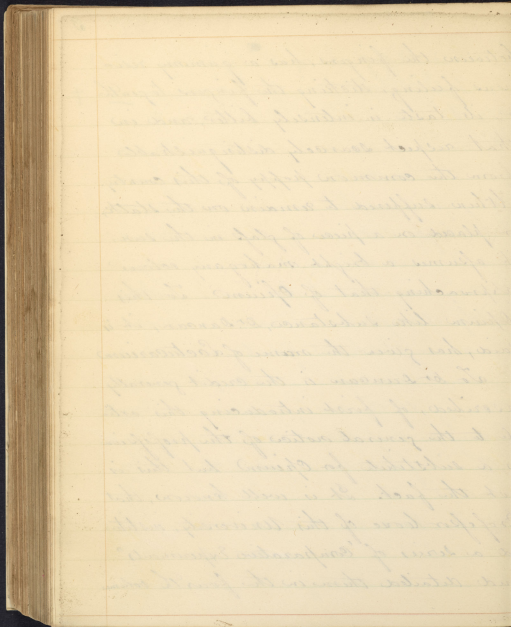
The Milk of Lettuce (as it is commonly called) when it first exudes, is about the colour and consistence of cream; when pressed



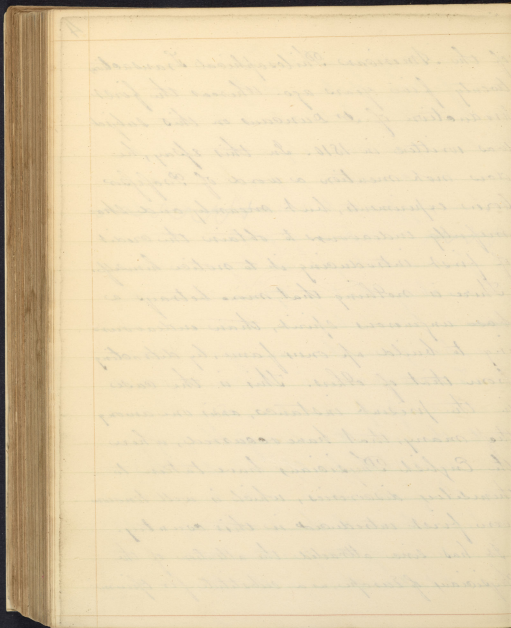
between the fingers, has a gummy resinous feeling, sticking the fingers together & its taste is intensely bitter, and in that respect scarcely distinguishable from the common poppy of this country.

When suffered to remain on the stalk, or placed on a piece of glass in the sun, it assumes a bright mahogany colour approaching that of Opium. To this Opium like substance, Dr Suncar; it is said, has given the name of Lactucarium.

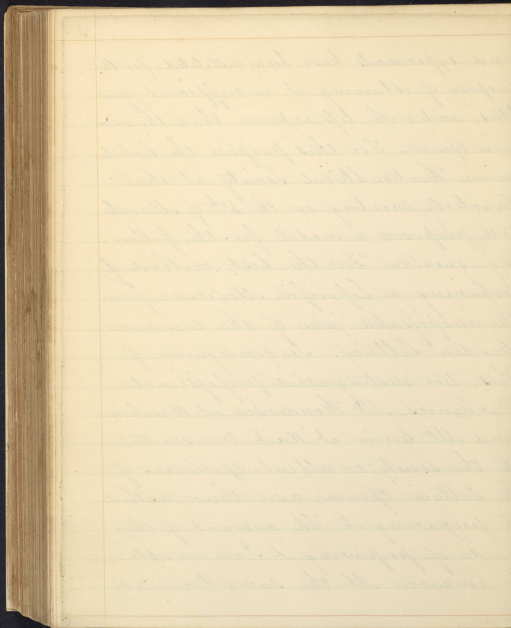
To Dr Suncar is the credit generally ascribed, of first introducing this article to the general notice of the profession as a substitute for Opium but this is not the fact. It is well known, that Professor Boer of this University, instituted a series of "Comparative Experiments" and detailed them in the fourth volume



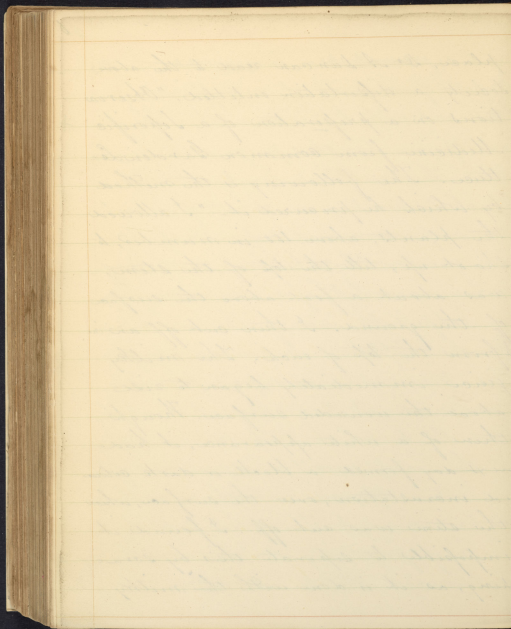
of the American Philosophical Transactions  
 twenty five years ago. Whereas the first  
 production of Dr Duncan on this subject  
 was written in 1816. In this essay, he  
 does not mention a word of Professor  
 Lewis experiments, but ~~meanly and shame-~~  
~~lessly~~ <sup>unwisely</sup> endeavours to obtain the credit  
 of first introducing it to notice himself.  
 There is nothing that more betrays a  
 base ungenerous spirit, than endeavour-  
 ing to build up ones fame, by detracting  
 from that of others. This is the case  
 in the present instance, and is one among  
 the many, that have occurred, where  
 the English Physicians have taken to  
 themselves discoveries, which is well known  
 were first introduced in this country.  
 It has since attracted the attention of the  
 Physicians of Europe, as a substitute for Opium



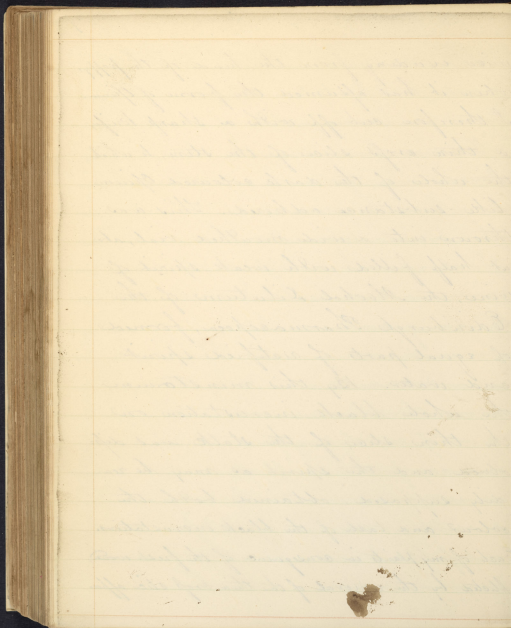
and experiments have been instituted for the purpose of obtaining it in sufficient quantities, and with less expence than the common Opium. For this purpose the Galician Horticultural Society at their Quarterly meeting on the 5th of March 1810 proposed a medal for the following question. "For the best method of preparing a Soporific Medicine, from the inspissated juice of the common Garden Lettuce." In consequence of this, two distinguished professional Gardeners, . Mr Henderson at Brechin and Mr Corrie at Raib, transmitted to the society, excellent specimens of the Lettuce Opium, and their method of preparing it. The account of their mode of preparing it I am unable to procure. At the same time and



place, Dr A. Laroan read to the above  
 society a dissertation entitled, "Observa-  
 tions on a preparation of a Soporific +  
 Medicine from common Garden Le-  
 tuce. The following is the method  
 by which he procured it." I allowed  
 the plants, above 100 in number, to  
 shoot up, till the top of the stem,  
 was about a foot above the surface  
 of the ground. I then cut off an in-  
 ch from the top of each. The milky  
 juice immediately began to rise  
 above the wounded surface. Though  
 then of a white appearance, it had  
 next day formed a black or dark colour-  
 ed incrustation, over the surface, where  
 the stem was cut off. I found it  
 impossible to separate this by scrap-  
 ing, as it is done with the milky



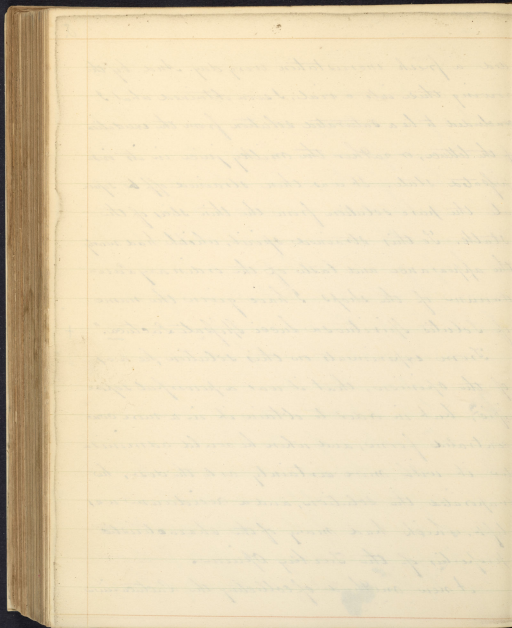
juice exuding from the head of the poppy, when it has assumed the form of Opium. I therefore cut off with a sharp knife, a thin cross slice of the stem, to which the whole of the dark coloured Opium like substance adhered. This was thrown into a wide mouthed vial, about half filled with weak spirit of wine, the Alcohol Dilutum of the Edinburgh Pharmacopoea, formed of equal parts of rectified spirit and water. By this menstruum the whole black incrustation on the thin slice of the stalk was dissolved and the spirit as may be readily supposed, obtained both the colour and taste of the black incrustations. Each of my plants in consequence of the fresh wound, inflicted by the removal of the thin cross slice appear



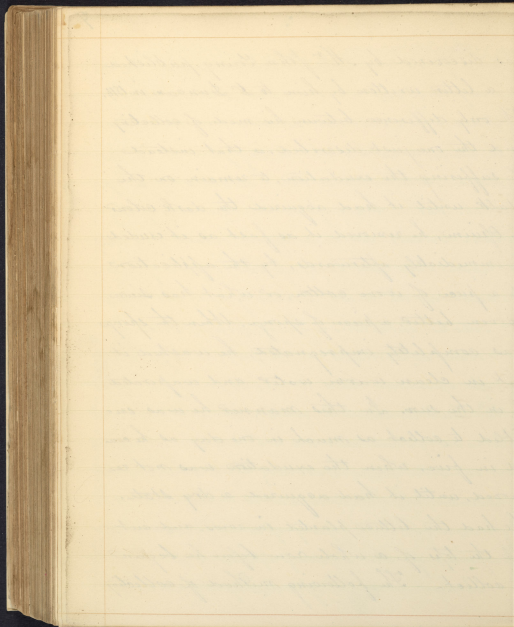
and a fresh incrustation every day. And by the  
 moving these into a vial, I soon obtained what I  
 concluded to be a saturated solution from the exudation  
 of the lettuce, or rather the milky juice in its ins-  
 pissated state. It was then strained off to separate  
 the pure solution from the thin skins of the  
 stalks. To this strained spirit, which had nearly  
 the appearance and taste of the ordinary Sacca-  
 ranum of the shops. I have given the name  
 of *Solutio Spirituosa Lucci Inspissati Lactuca.* +

From experiments on this solution he was  
 of the opinion, that it was a powerful sopo-  
 rific, but in order to obtain it in a more con-  
 centrated form, and when he could adminis-  
 ter it with more certainty as to the dose, he  
 evaporated the solution, and a residuum was  
 left, which had many of the characteristic  
 properties of the Turkey Opium.

A new method of collecting the *Lactucarium*

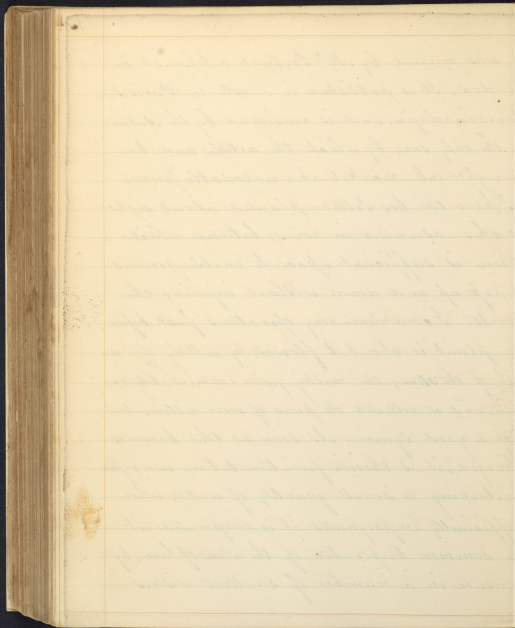


was discovered by Mr John Young, published  
 in a letter written by him to Dr Duncan in 1816.  
 The only difference between his mode of collecting  
 and the one just described, is that instead  
 of suffering the exudation, to remain on the  
 stalk until it had acquired the dark colour  
 of Opium, he removed it as fast as it exuded  
 or immediately afterwards, by the application  
 of a piece of woove cotton, or what has since  
 proven better, a piece of sponge. When the sponge  
 was completely impregnated, he washed it  
 out in clean warm water and evaporated  
 it in the sun. In this manner he was en-  
 abled to collect as much in one day as he cou-  
 ld in five, when the exudation was not re-  
 moved, until it had acquired a dry state.  
 He had the lettuce planted in rows, and cut  
 off the tops of a whole row before he began  
 to collect. The following method of collecting



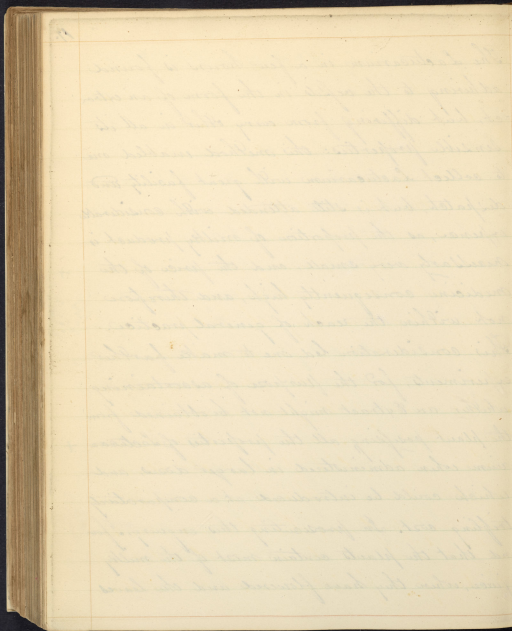
it was perused by M<sup>r</sup>. Probart a chemist in +  
London. It is published in a note in Paris's  
Pharmacologia, and is considered by the author  
as the only one, by which the article can be  
brought into market at a reasonable price.

"I have the *As. setacea* planted about eight  
inches asunder in rows, between which  
there is sufficient space to enable persons  
to pass up and down without injuring the  
plants. I commence my operations just before  
the plant is about to flower, by cutting off an  
inch of the stem; the milky juice immediately ex-  
udes, and is collected on pieces of wove cotton, about  
half a yard square. As soon as this becomes  
charged, it is thrown from time to time in a vessel  
containing a small quantity of water, when  
sufficiently impregnated it is evaporated at  
the common temperature of the atmosphere, by  
exposure in a number of shallow dishes

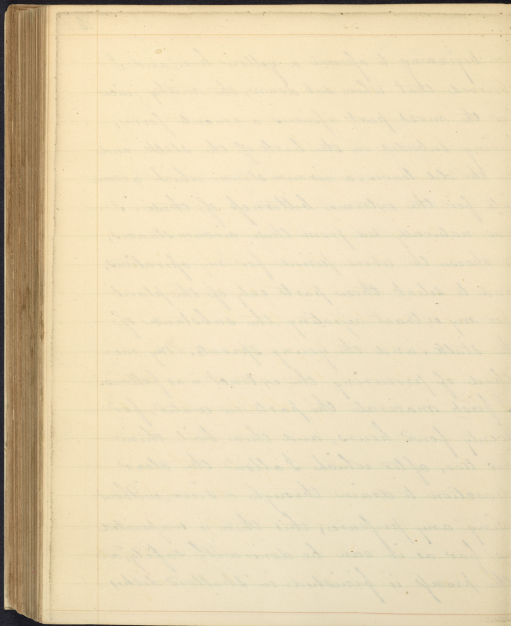


The Lactucarium in a few hours is found adhering to the vessels in the form of an extract, but differing from every other in all its sensible properties: this method enabled me to collect Lactucarium with great facility and despatch, but is still attended with considerable expense, as the proportion of milky product is necessarily very small, and the price of the medicine consequently high, and therefore not within the reach of general practice.

This consideration led me to make farther experiments, for the purpose of ascertaining whether an Extract might not be obtained from the plant possessing all the properties of Lactucarium when administered in larger doses, and which could be introduced at a comparatively trifling cost. In prosecuting this enquiry, I found that the plants contain most of the milky juice, when they have flowered and the leaves

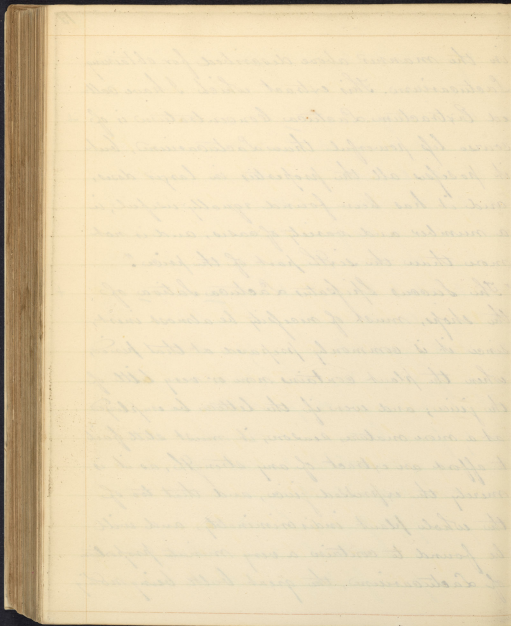


are beginning to assume a yellow hue, and I observed that when cut down, the milky juice for the most part assumes a concrete form, having subsided in the bark of the stalk and in the old leaves, a circumstance which accounts for the extreme bitterness of these. I was naturally led from these circumstances, to choose the above period for my operations, and to select those parts only of the plant for my extract rejecting the substance of the stalk, and the young sprouts. My method of procuring the extract is as follows. I first macerate the parts in water, for twenty four hours, and then boil them for two, after which I allow the clear decoction to drain through a sieve, without using any pressure; this then is evaporated as far as it can be done with safety, and the process is finished in shallow dishes,



in the manner above described for obtaining Lactucarium. This extract which I have called Extractum Lactucae concentratum is of course less powerful than Lactucarium, but it possesses all the properties in larger doses, and it has been found equally useful, in a number and variety of cases, and is not more than the sixth part of the price.

The Succus Spissatus Lactucae sativa of the shops, must of necessity be almost inert, since it is commonly prepared at that period, when the plant contains none or very little of the juice; and even if the lettuce be employed at a more mature season, it must still fail to afford an extract of any strength, as it is merely the expressed juice, and that too of the whole plant indiscriminately, and will be found to contain a very minute proportion of Lactucarium, the great bulk being nothing.

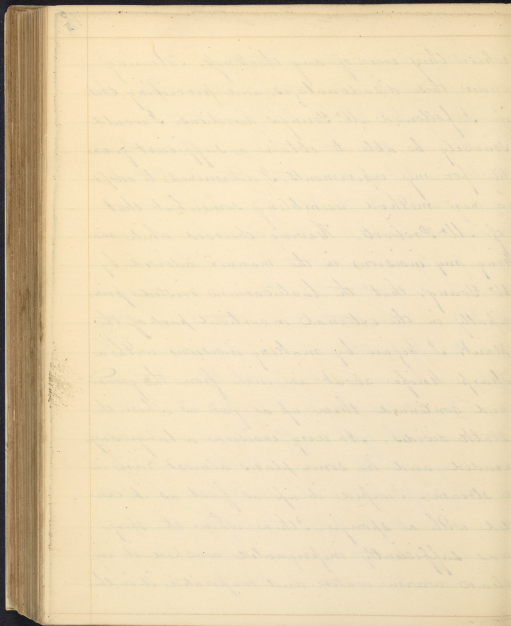


more than inspissated green juice."

I proceeded to collect the *Lactucarium* as advised by M<sup>r</sup> Young, but found I laboured under one or two disadvantages not mentioned by him. 1<sup>st</sup> I invariably found, that after having cut off the tops of a whole row and having returned to collect it, it had exuded so rapidly and was so liquid, that a great part had dropped off, leaving but a small portion on the stalk; so that I was obliged to apply the cotton or sponge immediately on having cut off the tops, which made it very tedious and laborious. 2<sup>nd</sup> That it was with great difficulty, I could procure any quantity, owing to the smallness of the drops, being obliged to cut the stalks very near to the tops, where of course they are very slender, as there would be scarcely any exudation, were the tops to be cut off



15  
where they were of any thickness. Laboured  
under these disadvantages, and perceiving that  
if I followed Mr Young's directions, I would  
scarcely be able to obtain a sufficient quan-  
tity for my experiments, I determined to adopt  
a new method resembling somewhat that  
of Mr Pribart. Having observed while mak-  
ing my incisions in the manner advised by  
Mr Young, that the lactoariums existed prin-  
cipally in the external or cortical part of the  
plant, I began by making incisions with a  
sharp knife about an inch from the ground  
and continued them up as far as where the  
stalk divides. At every incision a large drop  
exuded and in some places almost ran in  
a stream. I wiped it up as fast as it exu-  
ded with a sponge. I then when the sponge  
was sufficiently impregnated washed it in  
clean warm water and vaporated it in the



sun. To free it as much as possible from all impurities I again dissolved and evaporated it. In this manner I found no difficulty in procuring as much as I needed.

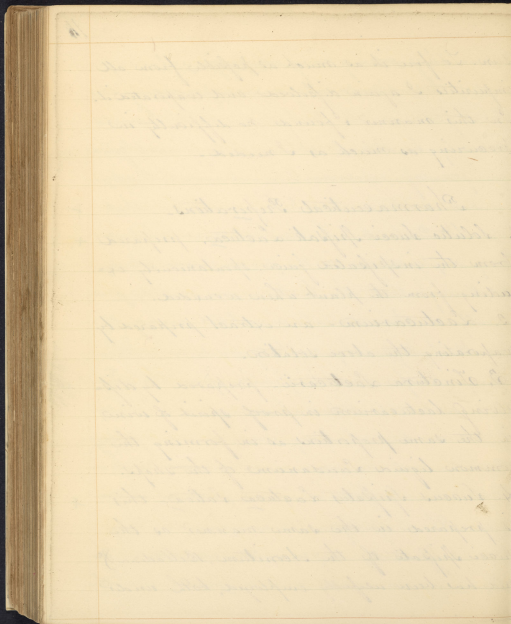
### Pharmaceutical Preparations.

1. *Solutio Succi Spissati Lactucæ*. prepared from the inspissated juice, spontaneously exuding from the plant when wounded.

2. *Lactucarium* - an extract prepared by evaporating the above solution.

3. *Tinctura Lactucarii* - prepared by dissolving lactucarium in proof spirit of wine, in the same proportions as in forming the common liquid Laudanum of the shops.

4. *Succus Spissatus Lactucæ saturatus* - this is prepared in the same manner as the succi spissati of the *Scorbutum*, *Belladonna* &c and has been usefully employed, both under

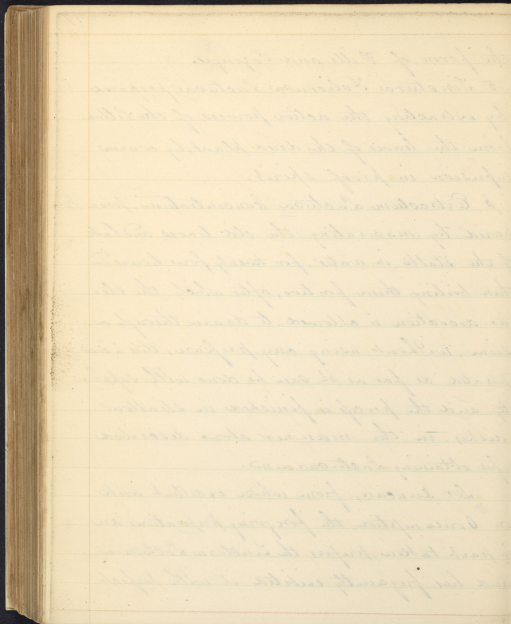


the form of Pills and Lozenges.

5 *Tinctura Foliorum Lactucæ*, prepared +  
by extracting the active powers of the *Lettuce*  
from the leaves of the dried plant, by warm  
infusion in proof spirit.

6 *Extractum Lactucæ concentratum*, pre- +  
pared by macerating the old leaves and stalks  
of the stalks in water, for twenty four hours and  
then boiling them for two, after which the clear  
or decoction is allowed to drain through a  
sieve, without using any pressure, this is wa-  
pered as far as it can be done with safety,  
and the process is finished in shallow  
dishes, in the manner above described  
for obtaining *Lactucarium*.

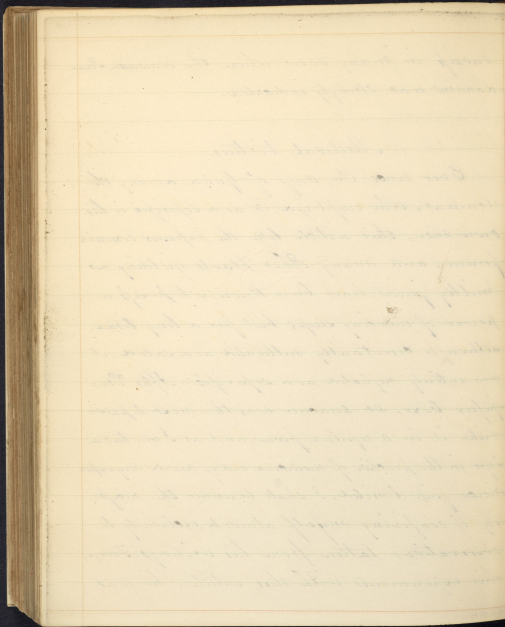
Dr. Scuran, from whose excellent work  
on Consumption, the foregoing preparations are +  
in part taken, prefers the *Tinctura Lactucæ*  
and has frequently exhibited it with perfect



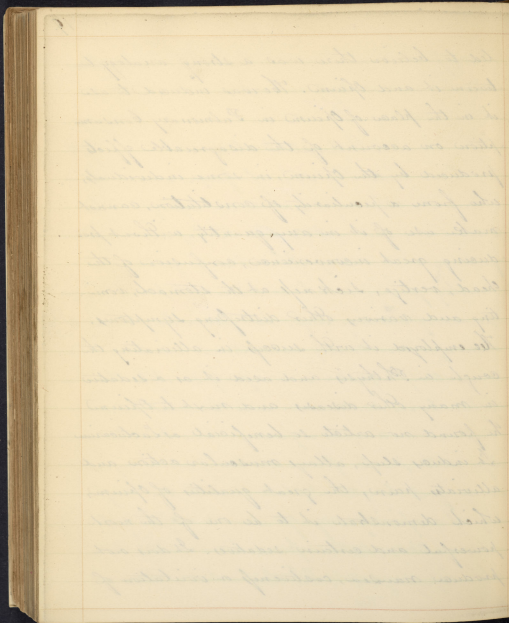
success in many cases where the common *Lam-*  
*hamus* was strongly indicated.

### Medical virtues.

Ever since the days of Galen, among the  
 Romans, who employed it as a soporific in his  
 own case, this article like the papaver common  
 form, and many other plants yielding a  
 milky juice, have been known to possess a  
 power of inducing sleep; but for a long time,  
 although constantly cultivated as a salad, it  
 was entirely neglected as a soporific. After Pro-  
 pser Cere, so Linnæus was the next to pre-  
 scribe it in a regular form, and as I am but a  
 lay in the practice of medicine and of course my expe-  
 rience quite limited, I shall be under the neces-  
 sity of confining myself almost exclusively to  
 observations taken from his writings. From  
 his experiments with this article, he was



led to believe there was a strong analogy between it and Opium. He was induced to use it in the place of Opium in Pulmonary Consumption on account of the disagreeable effects produced by the Opium, in some individuals, who from a peculiarity of constitution, cannot make use of it in any quantity, without producing great inconveniences, confusion of the head, vertigo, sickness at the stomach, vomiting and various other distressing symptoms. He employed it with success in alleviating the cough in Phthisis and used it as a sedative in many other diseases and next to Opium he found no article so beneficial as Lactucarium. It induces sleep, allays muscular action and alleviates pain, the great qualities of Opium, which demonstrate it to be one of the most powerful and certain sedatives. It does not produce nausea, costiveness or irritation of



the skin in so great degree as the opium.

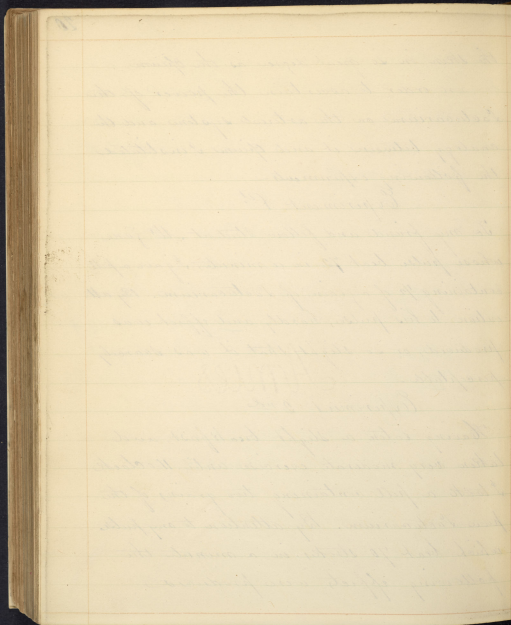
In order to ascertain the power of the Lactucarium on the arterial system and the analogy between it and opium I instituted the following experiments -

### Experiment 1<sup>st</sup>

To my friend and fellow student Mr. Jane whose pulse beat 72 in a minute, I gave a pill containing  $\frac{1}{2}$  of a grain of Lactucarium. By attention to his pulse, hardly and effect was produced, or so slight that it was scarcely perceptible -

### Experiment 2<sup>nd</sup>

Having eaten a slight breakfast, and taken very moderate exercise until 11 o'clock I took a pill containing two grains of the pure Lactucarium. By attention to my pulse which beat 70 strokes in a minute the following effects were produced



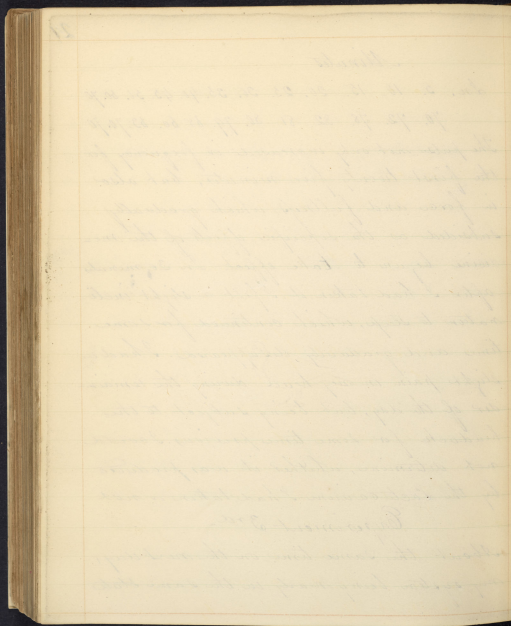
## Minutes

In. 5. 10. 15. 20. 25. 30. 35. 40. 45. 50. 55. 60. 70  
 70. 72. 75. 82. 81. 80. 79. 85. 60. 63. 70. 70

The pulse not only increased in frequency for the first twenty five minutes, but also in force and fullness, which gradually subsided as the soporific effects of the medicine began to take effect. In 30 minutes after I had taken it, I felt a slight inclination to sleep, which continued for some time and gradually disappeared. I had a slight pain in my head during the remainder of the day, but being subject to the headache for some time previous, I could not determine, whether it was produced by the Lactocarium I had taken or not.

Experiment 3<sup>rd</sup>.

About the same time on the next day, my system being nearly in the same state



as it was on the day previous, I took 3 grains  
of the *Lactucarium* in pills. By attention to my  
pulse the following effects were produced -

Minutes

In 10. 15. 20. 25. 30. 35. 40. 45. 50. 55. 60. 70. 80

72 75. 80. 76 72 69 62 59. 59 59 59. 59 59

and continued from this time in about  
the same state for two or three hours. I felt  
a strong inclination to sleep, so much so,  
that it was almost impossible to resist it.

This was succeeded by a severe pain in my  
head which continued through the whole day  
Experiment 1st.

To my fellow student, G. G. Barant and I gave  
30 drops of the *Tinctura Lactucarii*, prepared, as  
advised by Dr. Suncow. By attention to his pulse who  
beat 73 in a minute, the following effects  
were produced -

Minutes

In 5. 10. 15. 20. 25 30 35 40. 45. 50. 60

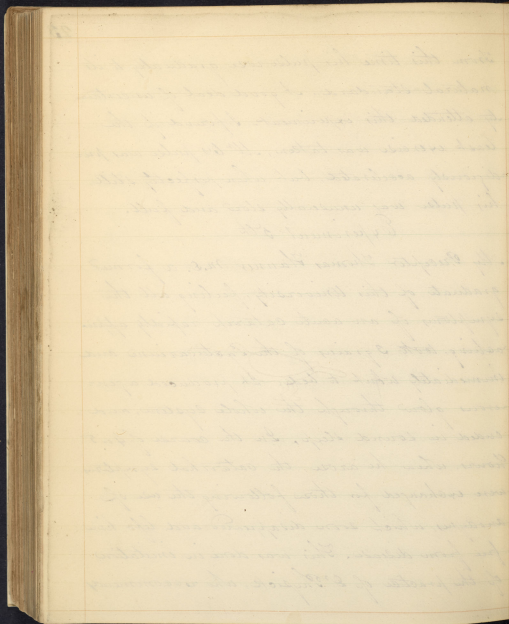
73. 76. 76 81. 80 79. 74 69 66 62 62



From this time his pulse rose gradually to its natural standard. A good deal of uncertainty attended this experiment. I found if the last exercise was taken, Mr. G's pulse was prodigiously accelerated, but when perfectly still, his pulse was unusually slow and full.

#### Experiment 5th

My Preceptor Thomas Hanner M.D. a former graduate of this University, feeling all the symptoms of an acute catarrh rapidly approaching, took 3 grains of the Lactucarium and immediately went to bed. It produced a general glow through the whole system, and ended in sound sleep. In the course of 4 or 5 hours, when he arose, the catarrhal symptoms were exchanged for those following the use of opodopus, which soon disappeared and left him free from disease. This was done in imitation of the practice of Dr. Sympson, who recommends



laudatum, under similar circumstances. This  
 experiment was completely successful.

in the  
 Medical Repository  
 in and  
 Medical Repository  
 of the  
 Callicoon, New York  
 by  
 Joseph Lee  
 of  
 Camden  
 South Carolina.  
 1825.

Doth case